IN THE CLAIMS

PLEASE AMEND THE CLAIMS AS FOLLOWS:

1. (currently amended) A system for ultrasonic imaging, comprising:

a signal generator unit for generating at least two out-of-phase pulses, wherein the signal generator unit convolves at least two out-of-phase sine waves with an envelope function to produce the at least two out-of-phase pulses, and wherein the at least two out-of-phase sine waves are modulated in a way to produce a chirped Gaussian pulse width modulated waveform;

a signal transmitter unit coupled to the signal generator unit for transmitting the at least two out-of-phase pulses into media of interest;

a receiver and raw data averager unit for receiving the at least two out-of-phase pulses modified by the media of interest, the receiver and raw data averager unit providing a point-by-point arithmetic average of the received at least two out-of-phase pulses modified by the media of interest; and

a data processing unit coupled to the receiver and raw data averager unit, the data processing unit constructing an area of acoustic image based on the point-by-point arithmetic average provided by the receiver and raw data averager unit.

2. (previously presented) The system of claim 1, wherein the signal generator unit is a digital waveform generator.

3-6. (cancelled).

7. (currently amended) The system of claim [[6]] 1, wherein the envelope function is a Gaussian waveform.

8. (currently amended) The system of claim [[6]] 1, wherein the envelope function is a chirped waveform.

9. (cancelled)

10. (previously presented) The system of claim 1 wherein the signal transmitter unit comprises a power amplifier, a transmit/receive switch, and a transducer.

11. (previously presented) The system of claim 10, further comprising a digital delay circuit configured to delay the transmission of the at least two out-of-phase pulses into media of interest.

12. (previously presented) The system of claim 10, further comprising an analog delay circuit configured to delay the transmission of the at least two out-of-phase pulses into media of interest.

13. (previously presented) The system of claim 10, further comprising a channel gain circuit to drive the power amplifier.

14. (previously presented) The system of claim 1, wherein the at least two out-of-phase pulses are alternately transmitted by the signal transmitter unit to produce a pulse set.

15. (previously presented) The system of claim 1, wherein the receiver and raw data averager unit comprises a transducer, a transmit/receive switch, an analog-to-digital converter, and an averager.

16. (previously presented) The system of claim 15, wherein the receiver and raw data averager unit further comprises a power amplifier, a bandpass filter, and a baseband filter.

17. (previously presented) The system of claim 15, wherein the receiver and raw data averager unit further comprises an in-phase and quadrature mixer configured to produce a single side-band signal.

18. (previously presented) The system of claim 1, wherein the signal generator unit and the receiver and raw data averager unit share a transducer.

19. (previously presented) The system of claim 1, wherein the data processing unit comprises an in-phase and quadrature mixer, a digital signal processor, an acoustic image data buffer, and a scan converter.

20. (previously presented) The system of claim 1, wherein the data processing unit comprises an in-phase and quadrature mixer, an application specific integrated circuit, an acoustic image data buffer, and a scan converter.

21. (previously presented) The system of claim 1, further comprising an image display unit coupled to the data processing unit.

22. (previously presented) The system of claim 21, wherein the image display unit is a computer monitor, the computer monitor configured to display the area of acoustic image.

23. (previously presented) The system of claim 21, wherein the image display unit is a flat-panel display, the flat-panel display configured to display the area of acoustic image.

24. (previously presented) The system of claim 21, wherein the image display unit is a liquid-crystal display, the liquid-crystal display configured to display the area of acoustic image.